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ABSTRACT

The financial health of the education system of most states is not good; those seeking to improve educational quality will have to find inexpensive methods. Areas of the American educational system in which quality standards are not being met include time spent in learning, curriculum content, appropriate use of new technology, and personnel. Educational reforms of the sixties and seventies worked, but they were expensive. For the eighties, reforms will have to be carried out with the limited funds available. Fifteen years of research have developed a consensus on strategies for improving basic skills performance. Six elements of these strategies are: (1) administrative leadership; (2) increased academic learning time; (3) a focus on basic skills; (4) improved teaching practices; (5) long-term staff development; and (6) school improvement efforts. The final section of this document lists affordable policy options which can increase academic learning time, improve the academic and substantive content of the curriculum, enrich teaching materials, make use of educational technology, and recruit and maintain a staff of high quality personnel. (DC)

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Improving Schools With Limited Resources

THE ISSUE

With the real level of fiscal resources for the nation's schools unlikely to go up, education policy makers must come up with ways to improve education quality with limited and sometimes declining resources. The dollar cost of education has jumped geometrically over the past decade, but prices have leaped even higher. Public demands for quality education in the eighties cannot be met with the expensive education strategies of the seventies. New ones are needed.

The Fiscal Picture

The financial health of the education system in most states is not good. Although real resources for public elementary and secondary schools increased by 40 percent during the seventies, each year in the eighties they have declined. The outlook for the next few years is not much brighter. Except for a few of the energy-rich states, most state budgets are in poor and deteriorating condition. For fiscal 1982, 29 states are expected to end the year with general fund deficits, or balances of less than 1 percent. The nationwide fund surplus for the 50 states is estimated to be 1.5 percent; 5 percent is the normal standard. In many states, revenue intake has fallen below revenue estimates for nearly four successive quarters. Why? There are four reasons:

- First, beginning in 1978, states enacted major tax rate reductions, often indexing state income taxes to measures of inflation, and revenues went down.
- Second, 1981 changes in the federal tax structure reduced state revenues, since most state tax systems are linked to the federal structure.
- Third, cuts in federal aid programs decreased available state dollars.
- Fourth, the current recession, somewhat unexpected, deeper and longer lasting than anyone predicted, is lowering tax revenues at all levels.

The short-term outlook for education finance is grim, and those seeking improved education quality will have to find inexpensive routes.

Education Quality

In many respects, the education system in the United States is the best in the world. There are many exemplary programs in states and local school districts across the country. Payoffs from two decades of

categorical programs for special populations and one decade of school finance reform are increasingly evident.

Nevertheless, public opinion of the schools is more negative than it has been in 15 years. Scholastic Aptitude Test scores have been dropping for a decade. National Assessment of Educational Progress data indicate that performance in the higher-order skills has been slipping as well, even though these skills are essential for the emerging information processing society. There is an acute shortage of math, science and computer teachers who are sorely needed for our new high technology world. Quality standards for education are not being met.

- Less *time* is spent on academic instruction. Nonacademic activities erode student academic learning time. In Japan, by comparison, students attend school the year around and are assigned two to four hours of homework each night.

- Poor teacher classroom organization and management whittle away the amount of time spent on learning.

- States and local school districts, in efforts to save money, have shortened both the school year and the school day.

- Curriculum content also has been watered down. The academic challenge in most textbooks is fading. Attention to the higher order skills is woefully inadequate. There has been a precipitous decline in English, math, science and foreign language requirements for high school graduation and college entrance. Electives, often not designed to yield some cohesive, substantive whole, have replaced sound core curricula.

- The technology of teaching has not kept pace with modern day requirements. Research on effective teaching has not influenced many schools of education, and teaching practice is remarkably similar to that of 20 years ago. The potential of microcomputers has barely been tapped.

- The quality of the human capital — teachers and school administrators — has deteriorated. The academic capability of those entering the teaching profession has been lessening for more than a decade, and the public is acutely aware of this. Teachers are underpaid, inappropriately or poorly trained, and generally denied real professional status. The organization of schools discourages the collegiality needed for effective teaching.

Successful Improvement

Over past decades, the elements of successful education reforms have been identified. These reforms are structural in nature, have a clear identity, are easily monitored and create a constituency for maintenance and support. Vocational education, compensatory education, driver training, school lunch and breakfast programs and services for the handicapped are some of the best examples. But these reform programs of the sixties and seventies were expensive; they were *reform by addition* — new programs, new money, new specialists and new interest groups. They worked, but they required more money.

For the eighties, successful education improvement efforts will have to leverage the funds already in the system. These constraints suggest the focus must be on leadership; setting new standards for licensing teachers, accrediting schools and admitting students to higher education opportunities; revising inservice training and staff development; and using the results of research. There are many initiatives of this sort that can be undertaken in this decade. The Carnegie units for high school graduation and college admission are a 30-year-old example of this type of strategy.

A Knowledge Base

After 15 years of research on school improvement, there is now a consensus on successful strategies for improving student performance in the basic skills, including performance by low-income and heterogeneous students in urban schools. Six elements are listed below:

1. Leadership by school principals, district superintendents and state education policy makers in making better performance in the basic skills a clear strategic goal for schools, districts and states. Intelligence, courage and commitment are needed, not money.

2. Increased time on academic tasks. Academic learning time is the major variable in student performance; more learning time yields improved student achievement. The techniques identified by effective teaching and classroom management research increase academic learning time within the normal school day, and thus are no-cost strategies.

3. Redesign of the instructional program to focus on the basic skills. An instructional program integrated and articulated across both grade levels and programs, and focused on reading, writing, mathematics and other basic skills is fundamental to high student performance in these areas. Instructional content must match district academic goals. Again, this is a low- or no-cost strategy.

4. Improved teaching practices. Effective teaching research, most of which was undertaken in actual classroom settings, has identified those teaching and classroom management functions that are most effective in teaching students basic skills and knowledge. The most effective teachers use these no- or low-cost strategies:

   - Teach to the whole class or to large groups.
   - Keep students on academic tasks and cover extensive curricula content.
   - Provide highly structured questions that elicit a high rate of correct answers from students.
   - Provide immediate, academically oriented feedback, praising correct answers and exploring incorrect ones.
   - Monitor individual student performance during recitation periods and provide individualized feedback.

5. Long-term staff development. Inservice training program designs, including materials and manuals, have emerged from school improvement research and can be used to train teachers in effective teaching and classroom management, to train principals in the knowledge and management skills needed to be instructional leaders in schools, and to create the collegial relationships, cooperative working patterns and sense of efficacy associated with faculties in effective schools. Most districts already budget staff development money.

6. Successful low- or no-cost elements for changed structures in school improvement efforts include:

   - Recognizing individual schools as the most important sites for improvement activities.
   - Setting clear academic goals for student achievement.
   - Vesting control of the classroom improvement process in teachers.
   - Selecting or developing good curriculum and teacher training materials.
   - Using outside consultants from the central district office or state education agency on a long-term basis to work with administrators and teachers.

Affordable Policy Options

TIME. To increase academic learning time for students, policy makers can:

- Maintain or extend the school year or school day.
- Encourage reduced administrative intrusions into the instructional day, lessen the time between class periods and shorten time for lunch, recess and other nonacademic activities.
- Promote the use of techniques from the effective teaching and classroom management research that increase time-on-task in elementary schools.
- Require more academic courses for credit in high schools — reduce credits now given for work or other nonacademic experience.
- Require increased homework for students at all levels.

All of the strategies would involve tradeoffs; there are relative gains and losses for each.

CURRICULUM. To increase the academic and substantive content of the instructional program at all levels, policy makers can:

- Make reading, writing, mathematics, computer literacy and other important skills the focal elements of the elementary school instructional program.

- Require more formal courses in high school, reduce the number of electives, and encourage a substantive sequence and cohesion in instructional programs.

- Insure that all courses give substantial attention to the higher order skills of summary, application, synthesis, problem-solving, implication, inference and creativity. Bring set theory and logic back into math. Require speaking and reading literacy in a foreign language. Add computer science and programming to the curriculum.

- Raise entrance requirements for public colleges and universities toward more formal, academic course work. Substitute specific academic proficiencies rather than grade-point averages for college admission.

MATERIALS/TECHNOLOGY: To enrich the academic challenge of textbooks and other teaching materials and to use the results of research and the potential of computers to improve classroom teaching, policy makers can:

- Upgrade the standards for textbooks.

- Provide for the use of computers when appropriate to supplement the teaching process, and set stringent selection guidelines and quality standards for computer curriculum hardware and software.

- Provide for inservice training on effective teaching and classroom management.

STAFF: To recruit and maintain a teaching and administrative staff with the capacities for high quality instruction, policy makers can:

- Devise ways to increase the numbers and quality of persons entering and staying in the teaching profession, including salary differentials for math, science and computer teachers if necessary.

- Improve the professional character of the teaching profession — raise salaries, require a more rigorous training and intern or apprentice period and restructure the schools from bureaucracies to collegial organizations.

- Focus inservice training for elementary teachers on effective teaching techniques. Train and retrain secondary teachers in current math, science and computer substance.

- For teacher salary increases, allow only college credits directly related to teaching assignments.

- Encourage the selection of principals with the substantive knowledge and management skills needed to be instructional leaders in schools.

Recommended Reading

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